

## **Overview**

**Revisions** Shortens PD number. Adds additional definitions. Adds requirements to determine Quality Grade Level of SFE components and update WBS.

---

**Introduction** This process describes how to originate and change Atlas Project, Special Facilities Equipment (SFE) Engineering Drawings. Any Atlas Project personnel may initiate the change process.

---

**Definitions**

Drawing: A graphic document used to define a product.

Engineering Order (EO): A form used to provide written direction to a designer regarding creating or changing an Atlas Project SFE engineering drawing.

Prototype/Sketch/Working Drawing: A preliminary design definition intended only for internal lab use that is initiated by preparing an EO. Prior to formal release as the Original Issue, changes are informally coordinated between engineer and designer. Version differentiation is achieved by advancing the drawing's numeric revision level.

Released Drawing: A engineering drawing that has been checked and approved for project and external use. Released drawings carry an Original Issue or higher alpha revision level.

Work Breakdown Structure (WBS): A document listing the hierarchical relationships between SFE components.

---

**Approval** The process leader for this process is John Frey, 665-1528, who approves all process-based command media for this process.

---

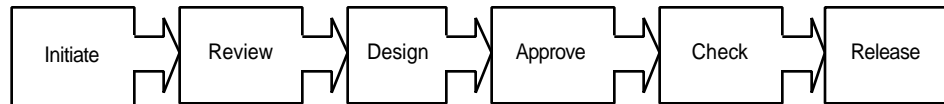
**Topics** The table below lists the topics covered by this process description.

Topics
Block Diagram
Stages in the Engineering Drawing Change Process
Supporting Information
Appendix 1, Engineering Drawing Change Process Map
Appendix 2, Atlas SFE Document Change Approval Authority Table

## Block Diagram

**Block diagram**

The block diagram below presents an overview of the process.



## Stages in the Engineering Drawing Change Process

**Stages in the process**

The table below describes the stages of originating or changing Atlas Project Engineering Drawings.

## Engineering Drawing Change Process, Atlas Project SFE

09/16/97

Stage 1 INITIATE EO				
Who Does It		What Happens		
Requester/ Project Team		Conduct a meeting of affected team members. Define requirements. Determine security classification. Determine Quality Grade Level IAW Appendix A, Atlas SFE QAPP Prepare and submit an Engineering Order to Atlas Project Configuration Manager (CM).		
Configuration Manager		Assign Control Number to EO. Log into EO database. Determine appropriate EO approval authorities with use of the WBS, Atlas Interface Drawings, and Appendix 2. Forward to EO approval authorities.		
EO Approval Authorities		Review EO for conceptual content:		
		If...	Then...	
		Approved	Sign EO Forward to next approval authority or return to CM.	
		Disapproved	Return to CM with explanation.	

Stage 2 REVIEW EO				
Who Does It	What Happens			
Configuration Manager	Review EO for completeness:			
		If...	Then...	
		Incomplete	Return to Requester with explanation.	
		Complete	Update EO database.  Advise holders of current drawing of the pending change.  Forward EO to Designer.	

Stage 3 DESIGN DRAWING				
Who Does It	What Happens			
Designer	Create/Update drawing per EO.  Assign file name if new drawing.  Obtain drawing numbers for new drawings from CM per WI 01.01.00.01.  Print drawing.  Forward drawing package:			
		If...	Then...	
		Initial checkprint	Forward drawing package to owning Engineer or Scientist for approval (Stage 4).	
		Subsequent checkprint or final print	Forward drawing package to checker (Stage 5).	

Stage 4 APPROVE DRAWING				
Who Does It	What Happens			
Engineer/ Scientist	Review drawing for correctness:			
		If...	Then...	
		Disapproved	Return to designer with explanation, repeating Stage 3.	
		Approved	If checker has signed, sign and return to designer (Stage 6).  Else, return to designer.	
Designer		If...	Then...	
		Disapproved by Engineer/Scientist	Return to Stage 3 (Design).	
		Approved, but not signed, by Engineer/Scientist	Forward drawing package to checker (Stage 5).	
		Approved and signed by Engineer/Scientist	Go to Stage 6 (Release).	

Stage 5 CHECK DRAWING				
Who Does It	What Happens			
Checker	Review drawing for correctness:			
		If...	Then...	
		Disapproved	Return to designer with explanation, repeating Stage 3.	
		Approved	Sign.  Return to designer for release (Stage 6).	

Stage 6 RELEASE DRAWING	
Who Does It	What Happens

## Engineering Drawing Change Process, Atlas Project SFE

09/16/97

Designer	<p>Obtain additional signatures, as required.</p> <p>Release drawing for use.</p> <p>Forward Master Drawing and completed EO to CM.</p>
Configuration Manager	<p>Update EO database.</p> <p>Update Master Drawing List.</p> <p>Add released drawing number, quality grade level, and responsible person to WBS</p> <p>Advise holders of drawing release.</p> <p>File master copy of drawing.</p> <p>File EO package.</p> <p>Distribute copies of drawings upon request.</p>

## Supporting Information

### Selected references

Atlas SFE Quality Assurance Program Plan.  
Atlas Project Security Classification Guide.

### Form(s)

Atlas CM-1    Atlas Engineering Order.

### Report(s) generated

None.

### Quality records

The quality records associated with the Atlas Engineering Drawing Change Process consist of the following:  
Engineering Orders  
Engineering Drawings

### Business records

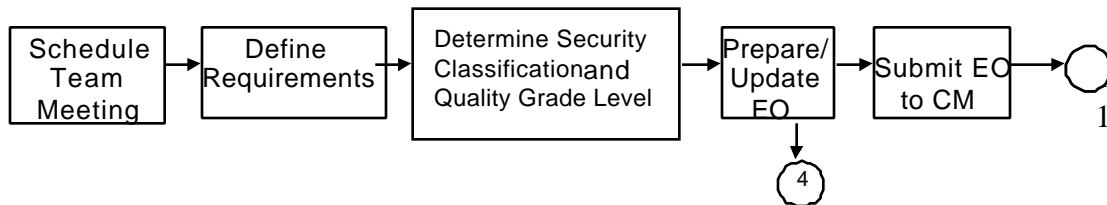
The business records associated with the Atlas Engineering Drawing Change Process consist of the following:  
Master List of Engineering Drawings

## Appendix 1, Engineering Drawing Change Process Map

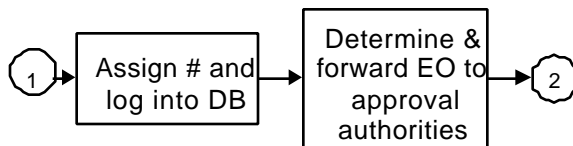
**Process Map** The process map below presents a more detailed view of the process than illustrated in the block diagram. The stage table in this process manual is the official description of this process and takes precedence over the process map displayed here for reference.

### Stage 1 INITIATE EO

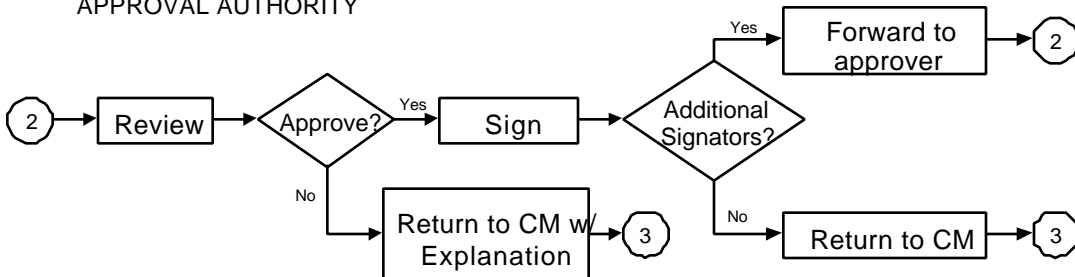
#### REQUESTER



#### CONFIGURATION MANAGER

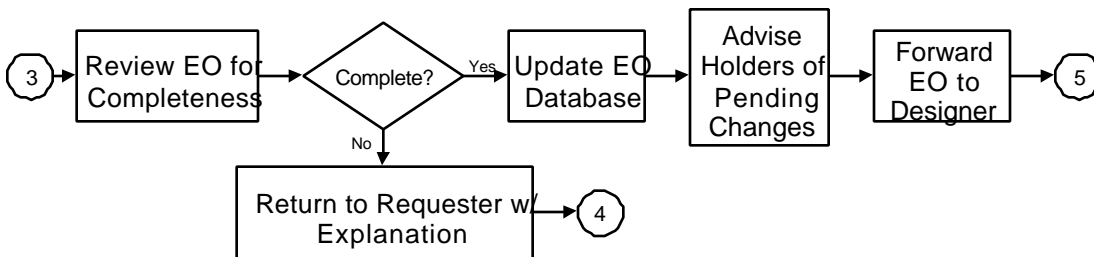


#### APPROVAL AUTHORITY

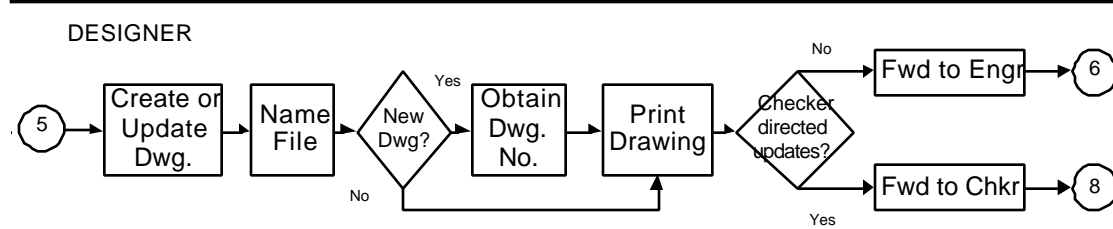


### Stage 2 REVIEW EO

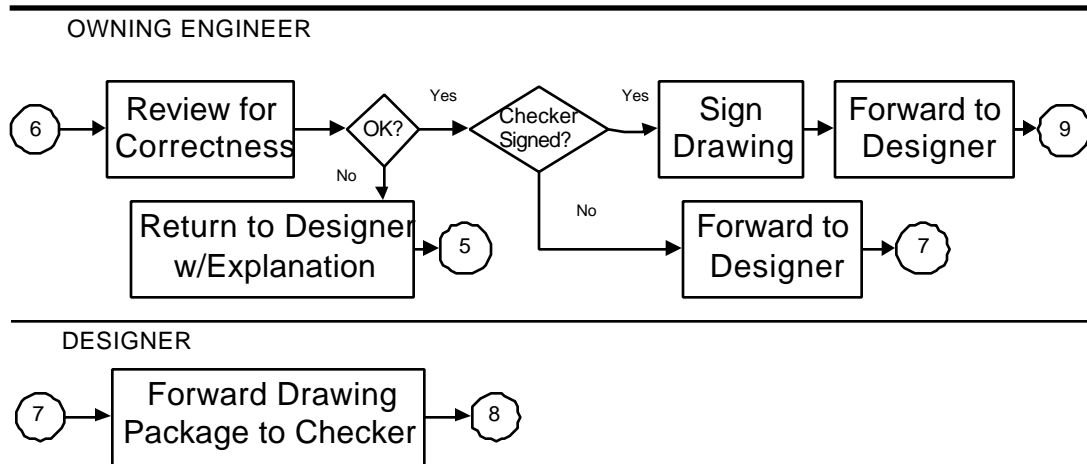
#### CONFIGURATION MANAGER



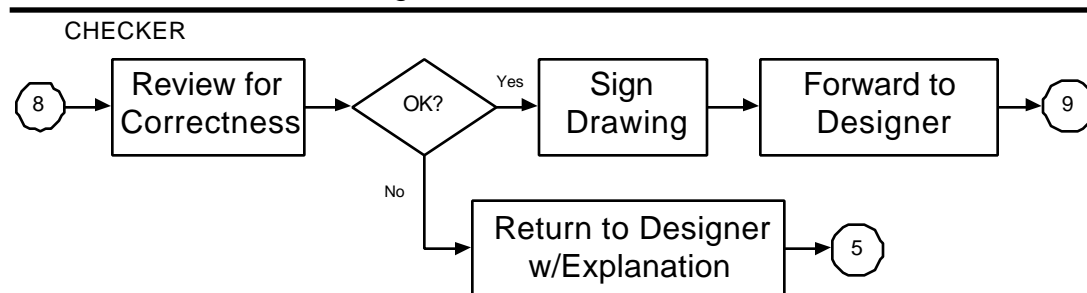
### Stage 3 DESIGN DRAWING



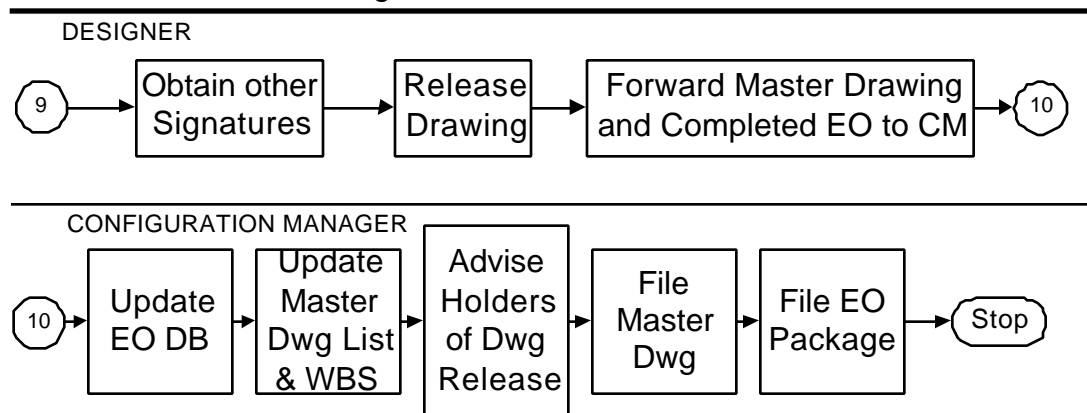
### Stage 4 APPROVE DRAWING



### Stage 5 CHECK DRAWING



### Stage 6 RELEASE DRAWING





## Appendix 2, Atlas SFE Document Change Approval Authority Table

Step #	Is Hardware Interface Affected?	Is Electrical Interface Affected?	Then See Note:	Else Go To Step #
1	No	No	1	2
2	Yes	No	2	3
3	No	Yes	2	4
4	Yes	Yes	2	N/A

Notes:

1. Owning engineer reviews, approves, and signs EO. An information copy is provided by CM to the owning project leader.
2. Each project leader affected by the Interface; reviews, coordinates with their engineering staff, approves, and signs EO.

---

END OF DOCUMENT